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ABSTRACT

Before turning to the OCLC vision of nationwide networking, a review of some of the issues that have influenced that vision are presented, including: technology as a driving force; library and information economics; the challenge of providing ever-proliferating services to an ever more computer-literate end user; the changing role of the library itself--in the university, college, municipality, or school system, and in the professions; the increasing role of commercial enterprises; and the increasing number of technology-driven local options and local cost-benefit considerations that ignore networking in a national resource-sharing environment. The paper then examines the OCLC vision of future networking in the face of strong decentralizing forces including: the continued development of "networks of networks" in the United States that create a nationwide network with no monolithic structure; greater cooperation and resource-sharing among the bibliographic networks; changes in networking concepts to accommodate technological change; and specific efforts that must be made at every level in the library and education community. Finally, OCLC's vision of national and international resource-sharing projects and their role in the future is discussed in light of directions set by the OCLC charter. A short list of references is included. (THC)

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The Nationwide Network and OCLC:
A Vision and a Role

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by Rowland C. W. Brown, President

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Dear Colleagues:

This paper is the basis of a more abbreviated presentation I made to the Network Advisory Committee to the Librarian of Congress on December 19, 1985. The subject of the meeting was nationwide networking and the roles of various organizations in it, topics of transcendent interest to OCLC.

Several committee members asked for copies of my presentation, and our Board of Trustees suggested that the topic was of sufficiently wide interest that the paper, or its import, deserved broader dissemination.

Even as many of you, in your eagerness to use new technologies to provide the best possible service to library users, move full speed ahead to build local online catalogs and to develop and participate in clustered systems and state-wide resource-sharing projects, so OCLC is impelled by a vision of national and international resource sharing and networking that will serve library users wherever they may be. I have tried in this paper to explain where we are in this effort, how we got here and where we want to go.

I would be happy to hear your views of this paper or your own concept of the nationwide network—and international networking—and OCLC's role in it.

Rowland C. W. Brown, President
February 3, 1986

In considering OCLC's vision of a nationwide network and its role in that network, we are fortunate to have considerable help from an excellent paper[1] and talk by JoAn Segal, both presented at the 1985 December meeting of the Network Advisory Committee to the Librarian of Congress. We also have the benefit of a fine and thoughtful paper by one of my network mentors, Barbara Markuson,[2] a comprehensive analysis of networking and decentralization by JoAn Segal[3] and Susan Martin's provocative challenge to us on networking's changing roles and its possible disappearance.[4]

There are also a number of thoughtful articles that approach the subject of networking from various points of view. Of particular note are Richard McCoy's article on electronic networking for the scholar,[5] Patricia Battin's articulate analysis and call for leadership in examining and questioning the role of librarianship in the information age,[6] Marilyn Gell Mason's discussion of the public library of the future[7] and Pat Molholt's mind-expanding journey into how the user will fare in the electronic information age.[8] All of these talks, papers and articles, as well as others that space precludes my mentioning, provide rich intellectual resources that aid us in our thinking.

One might well ask if what is expressed in this paper is OCLC's vision or the author's. It is an appropriate question. In an organization as large, complex and diverse as OCLC, I find myself constantly trying to make and keep this distinction, a task made more difficult by the fact that OCLC is a membership organization, and there are probably at least as many views of its "proper" role as there are members. Perhaps it will be easiest for you to make the distinction in this way: when you agree with what I say, it is OCLC policy; when you disagree, you may wish to call it my personal prejudice.

Before turning to our vision of nationwide networking, I feel compelled to review some of the issues that have been repeatedly cited as influencing all of us in our vision of networking, whether we like it or not. These issues include

- Technology as a driving, almost overwhelming, force
- Library and information economics and the frustration frequently felt by those who do not perceive the hoped-for economic benefits of automation
- The challenge of providing ever-proliferating services to an ever more computer-literate end user of libraries in the face of growing commercial offerings outside the library environment
- The changing role of the library itself—in the university, college, municipality, or school system and in the professions
- The increasing role of commercial enterprises—frequently international in scope—not only as gen-

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eral information providers but also as providers of bibliographic and networking services to libraries specifically

- The increasing number of technology-driven local options and local cost-benefit considerations that ignore networking in a national, let alone international, resource-sharing environment

This last development is perhaps the overriding issue because it poses powerful and insidious challenges to the cooperative development of regional resources as well as national resources like OCLC and the Research Libraries Information Network (RLIN). As Ron Miller pointed out in a recent paper for NAC, "Economic forces and the prospect of greater local control have re-emerged as overt causes for key decisions. Some recent developments in technology help to support [libraries'] behavior."[9] These forces and the accompanying technologies are seductive in their promise of immediate reward, but I would caution that the reward may well be an illusion, and to the greater good of national networking and cooperation they are destructive.

". . . individual libraries will ultimately decide whether to abandon the concept of a national 'network of networks.' "

This decentralization, or balkanization, or "self-sufficiency syndrome," so forthrightly acknowledged by Susan Martin,[10] is perhaps our greatest challenge. We ignore it only at our peril, because individual libraries will ultimately decide whether to abandon the concept of a national "network of networks." Hundreds—possibly even thousands—of libraries, including large research libraries and, more and more often, public and smaller academic libraries will determine the future of a national network. State officials are surveying their options for providing for their constituencies, which the bibliographic networks generally do not serve on a large scale. A few state libraries are already looking at ways which, while they build on OCLC-derived records as well as LC records, make no pretense of supporting or contributing to a national system.

Barbara Markuson has reminded us that the realization of so-called "national information resources" is in major part a function of a combination of local actions:

> The majority of library collections, services and access are provided by local agencies, using local funds, and . . . any extended access has come about through professional cooperation and operational necessity. The reality is that our tremendous system of nation-wide access to library holdings would stop dead in its tracks without constant local concern and financial support.[11]

Libraries face a critical dilemma that presents the greatest danger to national networking: their known obligation to deliver services locally often conflicts directly with their perceived obligation to share resources on a national scale. Part of the difficulty is cost; part is the fact that external forces control the national environment. They find that they are unable to justify a larger, national role for their libraries when they compare its cost with their investment and participation in local in-house systems, clustered systems or even state systems, over which they believe they can exercise a greater degree of control. As JoAn Segal has observed, "There is frequently a failure to perceive the difference between a system that can generate catalog cards for one's collection and one which provides real-time links with the collections of libraries throughout the world."[12]

In emphasizing the size of our national database, we at OCLC sometimes tend to minimize, or even ignore, the importance and the usefulness of the more than 210 million holdings symbols that are attached to the records in the database. These holdings make possible an incredibly effective interlibrary loan system, and the way this system is used suggests that libraries of all sizes and types depend on each other, to a far greater extent than they realize, to supply at least a part of their patrons' needs. Let me give you just a few facts gleaned from an analysis of our interlibrary loan activity. Looking at 1984/85 OCLC Interlibrary Loan Subsystem statistics (and recognizing that the holdings information in the database generates very significant interlending activity without use of the ILL Subsystem and that such activity is not included in these figures), we find that

- 2.2 million ILL requests were made, and 85 percent of those requests were filled.
- Only 56 percent of the requests were filled within the state of origin.
- The ILL Subsystem involved about 2,600 lending institutions and a similar number of borrowing institutions in all 50 states, the District of Columbia and the United Kingdom. (SOLINET, AMIGOS, PACNET and, interestingly, FEDLINK were the most active networks.)
- Academic institutions—other than research—were the largest lenders, with research libraries a close second.
- Public libraries were the largest group of net borrowers.

It is worth noting that, in addition to these ILL data, there are 67 OCLC serials union lists online, and these comprise libraries of every conceivable type and size. There is a great deal of borrowing among union list participants that does not show up in our records. There is also much multistate activity on RLIN and the Western Library Network (WLN). This high level of interdependence should be kept in mind when we hear suggestions that networks of library types or state networks can replace a national network of networks.

National and international networking organizations

OCLC Charter

The purpose or purposes for which this Corporation is formed are to establish, maintain, and operate a computerized library network and to promote the evolution of library use, of libraries themselves, and of librarianship, and to provide processes and products for the benefit of library users and libraries, including such objectives as increasing availability of library resources to individual library patrons and reducing the rate-of-rise of library per-unit costs, all for the fundamental public purpose of furthering ease of access to and use of the ever-expanding body of worldwide scientific, literary, and educational knowledge and information.

Excerpted from the Articles of Incorporation of OCLC Online Computer Library Center, Incorporated

play an important role in resource sharing, national and international retrospective conversion projects, preservation programs and cooperative collection development. Moreover, a number of programs of vital national and international significance (e.g., CONSER, the U.S Newspaper Program, the Major Microforms Project, the National Federation of Abstracting and Indexing Program and broadly based preservation efforts) depend heavily for their very existence on a national database and a national network of cooperation. I underscore Barbara Markuson's admonition that "we need to make it known to federal and state governments, and to the general public that the extraordinary access to interlibrary information enjoyed in our country rests on local funding, local initiative and professional cooperation on a virtually unique scale."[13] I would add that we also need to make them aware of the synergism that results from the support of collaborative efforts by the Library of Congress, the national libraries, the National Endowments, the National Commission on Libraries and Information Science and the U.S. Department of Education in this total effort.

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What is our vision of future networking in the face of these strong decentralizing forces? As I have said in the past, those of us who live by technology can perish by technology. Similarly, those of us who have waxed on mutual support can wane when that support dissipates, for whatever reason. None of us should expect to continue to exist just because of our past accomplishments or our own perception of our intrinsic value to the changing library scene. Decentralization will continue. Certainly, we can work towards shaping it in ways that preserve national and international networking, but we cannot, and should not, stop it.

My belief is that we will continue to have networks of networks in the United States that create a nationwide network, with no monolithic structure. Libraries—in growing numbers—will, through new options, programs, pricing and collaborative leadership, continue to use the large national bibliographic databases, or subsets derived therefrom, for cataloging and interlibrary loan. Just as Patricia Battin has called upon librarians to accept the leadership thrust upon them to reinvent the library in the electronic age,[14] I believe that OCLC, its supporting networks, its members, its constituents and a widening list of parties in interest must accept a vision of a larger and broader role in creating and supporting a sound educational infrastructure, building upon the cooperative patterns and enlightened self-interest that have served us so well in the past.

I believe that there will be greater cooperation and resource sharing among the bibliographic networks—this is already under way—and that there will be continued efforts to maintain, strengthen and expand national and international standards. (We must always keep in mind, however, the unique and different requirements of catalogers and library patrons.) I believe this will happen because those of us who are committed to national and international networking will

- Communicate the issues better to a wider audience.
- Concentrate on increased actual economic value and find ways to become more cost-effective.
- Continue to stay abreast of emerging technologies and accommodate these changes quickly in a blend of centralized and distributed architecture and services.
- Recognize that the public and private sectors need to work together and that each sector has legitimate roles in both complementary and competitive modes.
- Move, not necessarily in unison, beyond bibliographic control as our raison d'être to focus on access to and delivery of content and the merging of information technologies.
- Make users aware that our national networking has, indeed, become a part of a global networking pattern that does not merely serve librarians but enriches the intellectual resources of the nation and the world.

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"Like libraries, bibliographic networks, including OCLC, must be seen as means to serving users' needs, not as ends in themselves."

Changes in our networking concepts must accommodate technological change and the hopes, wishes, desires and needs of new actors appearing on the scene, but, more important, these concepts must reflect changes that are taking place in the library itself and in the way people use libraries, and they must respond to the shifting patterns of the educational process as it makes greater use of an increasing variety of media. Like libraries, bibliographic networks, including OCLC, must be seen as means to serving users' needs, not as ends in themselves.

To bring about these changes in networking, we will have to exert effort at every level and tier in the library and education community. Specifically we must

- Broaden our vision; encourage universities and colleges, for example, to integrate their information and computer resources with the library as the central information provider, rather than to pursue time-shared support of uncoordinated or redundant activities
- Support consortium activities for resource sharing, rather than focus solely on the needs of individual institutions
- Encourage state library and other resource-sharing systems to recognize that major academic institutions and other repositories of information are essential supplements to state resources and that a state has much to gain from collaboration and record sharing with multistate, regional and national networks, of which these major academic institutions are a part
- Continue to encourage regional-network online systems to upload holdings and records to OCLC, as they benefit from a national cataloging database
- Encourage national consortia, national libraries and other major national institutions to participate in international resource sharing and ensure that standards and protocols continue to be developed to facilitate this.

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Now, what will OCLC's role be in this vision of the future? The directions have, in large measure, been set. The OCLC charter has, of course, been our primary guiding force, but let me review some major OCLC decisions that over the years have helped to determine our course:

- Our early decision to rely on cost-effective transaction activity for revenue generation and membership support, rather than on dues, assessments or grants
- Our decision to extend membership to all kinds of libraries, not just the large academic institutions, and to include in our offerings all available materials formats
- Our decision to extend the OCLC network beyond Ohio to the 50 states
- Our decision, based on the A. D. Little study ("A New Governance Structure for OCLC: Principles and Recommendations") to establish a corporate structure with decision making centered in a board of trustees composed not only of librarians but of persons with expertise in finance, telecommunications, marketing, computer science, law, etc.
- Our decision to establish a Users Council as part of our governance to represent the membership, rather than to operate as a federation of networks
- Our move to strengthen and broaden our varied management resources and to build a strong financial structure to accommodate growth contingencies and system replacement
- Our borrowing of significant long-term growth capital from the private financial markets, assuming on behalf of our membership the obligations and accountability for sound financial management that such borrowing entails
- Our commitment of significant financial, technical and human resources to a distributed architecture, our role as a leading proponent of micro-based workstations and enhancements, and our offering of local integrated systems (this will soon be extended with laser-disk-based distributed services here and abroad)
- Our continued commitment to, leadership for, and investment in national programs such as CONSER, the U.S. Newspaper Program and others
- Our commitment to the Linked Systems Project (LSP) as a means of improving record transfer, timely access and resource sharing
- The revision of our pricing structure to provide incentives for original cataloging and lending, as well as to establish an equitable basis for charging for searches as we anticipate greater searching by users not involved in cataloging and ILL activities
- Our significant, increased commitment to applied and general research in both library and information science
- The change of our membership structure to encourage members of the Research Libraries Group, Inc., (RLG) to load their records by tape into the OCLC database, in order to facilitate greater resource sharing and to provide searching of the OCLC database to those who are cataloging on RLIN

- Our development of group-access capabilities and contractual and system innovations to accommodate state resource-sharing plans, as in the case of California, and to provide economical tapeloading arrangements for certain network-developed holdings and records
- The extension of our network, through collaborative agreements, to an international network of networks
- Our commitment of very significant resources to the complete redesign and reimplementation of the OCLC Online System, which is already the largest and most efficient bibliographic system in the world, to enable us not only to do better what we do today, but also to empower the user at the workstation and to provide multiple databases at the workstation through the use of laser-disk technology and retrieval software

". . . we will continue to build and maintain an international bibliographic database, not merely as a 'business asset' but as a fiduciary trust on behalf of the library and education community . . ."

As these decisions and actions strongly suggest, we will continue to build and maintain an international bibliographic database, not merely as a "business asset" but as a fiduciary trust on behalf of the library and education community throughout the nation and the world. While there will be increasing use of local, state, regional and commercial databases based primarily on LC-MARC tapes or disks or on state and regional collections, we expect, for the foreseeable future, to be the bibliographic database of ultimate resort for many, if not most, of our current members and for a growing number of non–U.S. institutions.

Most libraries, both here and abroad, be they academic, public or special, will continue to have a high rate of success in finding an item in the OCLC database from various national MARC entries or from items already cataloged by OCLC's nearly 5,000 member libraries. Moreover, as is generally recognized, we are and remain the principal source of holdings information on an intrastate, national and international basis. We will continue to work with states, other networks and local clusters to meet our different but mutual goals of access to bibliographic information and resource sharing, building on the experience we have gained with other states. To cite but one example, we are currently working with SOLINET to explore cost-effective ways of using our mutual resources to serve an ever-widening group of libraries.

At the same time, we are negotiating with institutions in various parts of the world to establish mutual access to and exchange of records. We are also seeking to resolve problems with MARC-format conversions, conversions of varying national cataloging rules and differing communications protocols. Major new national and international retrospective conversion efforts are under way or are being planned with full OCLC support and investment.

The Linked Systems Project, to which OCLC is enthusiastically committed, will facilitate machine-to-machine interfaces and provide a means for the local automated library system of any cooperating vendor to be integrated with OCLC, RLG and WLN. By linking major bibliographic systems, LSP will aid in the implementation of national programs, including various cooperative programs among members of the Association of Research Libraries. It is also intended, at some point, to create direct terminal-to-terminal connections between selected bibliographic systems. However, for most users, but particularly for ILL users, we see a need to provide direct access to the large central OCLC database, which can be subdivided and distributed in a variety of localized settings while still supporting national networking.

Through tape and laser disk, as well as eye-readable formats, we expect to extend our already considerable distribution services to a variety of new users here and abroad. We have already become the primary distribution source of LC-MARC records for most of the larger libraries in the United States and for an increasing number of libraries abroad, and we are, of course, the original, and for most the only, source of OCLC member-contributed records. We currently have some 705 OCLC-MARC subscription users, and some networks, such as SOLINET and AMIGOS, also supply other users with LC-MARC and OCLC-MARC records.

The database, or more accurately the databases, in our new system will be capable of containing considerably more specialized information for the purposes of preservation and collection development. Subject searching on the entire database, available now in the first phase on BRS on about a million records, will make the system far more attractive to library users.

All of this brings me to what I see as the major change in OCLC's future role in networking. As others have noted, bibliographic control on a national scale was one of the earliest goals of OCLC and its membership. Academic administrators, trustees of public libraries, and particularly library users, however, are interested in network goals that focus on access, economics and other issues, in addition to bibliographic control, as they face difficult and often bewildering choices and decisions in library and information automation.

In recognition of this broadening of interest, OCLC will move beyond—notice I did not say "away from"—bibliographic control to access, that is, physical access to substantive information. In a continuum, we will provide more effective resources for the user including (1) subject search, (2) an intelligent gateway (UNISON), (3) reference services, both online and distributed, (4) Group IV facsimile transmission, (5) electronic journal development, through Graph-Text, and (6) electronic browsing of monographs, in concert with local library systems and through our project EIDOS (Electronic Information Delivery Online System). Most of these services will involve some form of

optical-disk memory, more powerful workstations and distributed software.

In response to suggestions from many of our members, we will expand our efforts to integrate bibliographic information with other information such as abstracting and indexing services and other searching aids. We will also continue to make online public access catalogs more useful by providing access to resources outside the local library and the capability to search the OCLC databases as well.

While these new efforts and directions will have a profound impact on OCLC's structure, on networking and potentially even on our governance, they will be consistent with our long established mission. Not only will they require collaboration and competition with the private sector, but they will generate new forms of cooperative activities among our member institutions and among scholars. Unfortunately, time does not permit a full exploration of the many new forms of interaction that will enhance national networking. I believe, however, that these efforts will be more productive because of the national networking efforts and the collaborative initiatives that have already been so painstakingly established and nourished for so many years by so many agencies, institutions and individuals.

Susan Martin observed that numbers breed distance and create a lack of cooperation.[15] In recognition of this, we have been bending more of our effort towards communication with our member libraries and the people who use, or would use, our systems. We now operate with a very large number and variety of consulting, advisory and staff procedures in dealing with the problems of our present bibliographic control environment. Yet, at the same time, we are energetically seeking to increase the number of "parties in interest" in OCLC to include educators, scholars, academic administrators, foundation executives, computer systems managers, state librarians and state education officials, publishers, jobbers, information vendors and others who are concerned about the quality, scope and cost of "the ever-expanding body of worldwide scientific, literary, and educational knowledge and information,"[16] and equitable access to it.

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As we metamorphose into an information network for users, not just through equipment, software, communications links and common databases, but by providing new collaborative input and output capabilities and forging new relationships with our users, we will be less a "bibliographic utility" and more an integral part of a larger national and international educational infrastructure. We will maintain our public purpose and our collaborative heritage, but we cannot and will not earn loyalty as an economic burden to our users. Competitiveness and cost-effectiveness have been watchwords for OCLC since its inception, and they will continue to be. But it is important—indeed, imperative—to understand that these are not our sole guides.

To many who view us from the outside, we may appear to be mired in issues of business, economics, law and politics. Certainly these are issues we must deal with, but at bottom, like the librarians with whom we work day in and day out, we are fired by a desire to serve those who need information and by the certainty that we can do so. That is our purpose and our mission. If it is true that from information comes knowledge, and from knowledge comes wisdom, then our purpose and our mission are worthy indeed.

Notes

1. JoAn S. Segal, "A Common Vision: Networking for Networkers and Librarians," paper presented to the Network Advisory Committee to the Librarian of Congress, Washington, D.C., December 1985.
2. Barbara Evans Markuson, "Issues in National Library Network Development: An Overview," paper presented to the Network Advisory Committee to the Librarian of Congress, Washington, D.C. May 1985.
3. JoAn S. Segal, "Networking and Decentralization," Annual Review of Information Science and Technology," ed. Martha E. Williams, vol. 20 (White Plains, N.Y., Knowledge Industries Publications, Inc., 1985).
4. Susan K. Martin, "Networks: Changing Roles," paper presented to the Network Advisory Committee to the Librarian of Congress, May 1985.
5. Richard W. McCoy, "The Electronic Scholar: Essential Tasks for the Scholarly Community," Library Journal 110 (1 October 1985):39–42.
6. Patricia Battin, "Crossing the Border: Librarianship in the Information Age," The Harvard Librarian 19 (September 1958):8–10.
7. Marilyn Gell Mason, "The Future of the Public Library," Library Journal 110 (1 September 1985):136–139.
8. Pat Molholt, "On Converging Paths: The Computing Center and the Library," The Journal of Academic Librarianship 11 (November 1985):284–288.
9. Ronald F. Miller, "The Impact of Technology on Library Networks and Related Organizations," paper presented to the Network Advisory Committee to the Librarian of Congress, May 1985.
10. Martin, "Networks."
11. Markuson, "Issues in National Library Network Development."
12. Segal, "A Common Vision."
13. Markuson, "Issues in National Library Network Development."
14. Battin, "Crossing the Border."
15. Martin, "Networks."
16. OCLC Online Computer Library Center, Inc., Amended Articles of Incorporation.

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